Appendix B

Urban Intelligence Preparation of the Battlefield

Maneuvers that are possible and dispositions that are essential are indelibly written on the ground. Badly off, indeed, is the leader who is unable to read this writing. His lot must inevitably be one of blunder, defeat, and disaster.

Infantry in Battle

The complexity of the urban environment and increased number of variables (and their infinite combinations) increases the difficulty of conducting the intelligence preparation of the battlefield (IPB) for urban operations (UO). Although more intricate, *the IPB process remains essential to the successful conduct of UO.* Conducted effectively, it allows commanders to develop the situational understanding necessary to visualize, describe, and direct subordinates in successfully accomplishing the mission.

URBANIZATION OF IPB

B-1. IPB is a systematic process for analyzing the environment and the threat in a specific geographic area—the area of operations (AO) and its associated area of interest. (The area of interest might include areas that are not contiguous with the AO.) It provides direction for the intelligence system, drives the military decision-making process, and supports targeting and battle damage assessment (see Figure B-1). The procedure (as

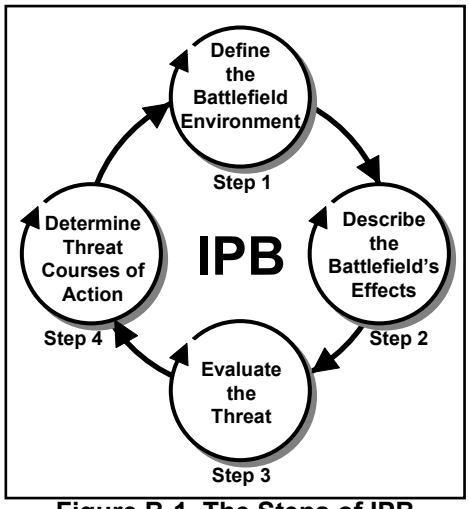

Figure B-1. The Steps of IPB

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well as each of its four steps) is performed continuously throughout the planning, preparation, and execution of an urban operation.

UNAFFECTED PROCESS

B-2. The IPB process is useful at all echelons and remains constant regardless of operation or environment. However, urban IPB stresses some aspects not normally emphasized for IPBs conducted for operations elsewhere. The complex mosaic is comprised of the societal, cultural, or civil dimension of the urban environment; the overlapping and interdependent nature of the urban infrastructure; and the multidimensional terrain. This mosaic challenges the conduct of urban IPB. There is potential for the full range of Army operations to be executed near-simultaneously as part of a single major operation occurring in one urban area with the multiple transitions. Such precision stresses the importance of a thorough, non-stop IPB cycle aggressively led by the commander and executed by the entire staff. Overall, the art of applying IPB to UO is in properly applying the steps to the specific environment and threat. In UO, this translates to understanding and analyzing the significant characteristics of the environment and the role that its populace has in threat evaluation. FM 34-130 details how to conduct IPB; FM 34-3 has the processes and procedures for producing all-source intelligence. This appendix supplements the information found there; it does not replace it.

INCREASED COMPLEXITY

B-3. Uncovering intricate relationships takes time, careful analysis, and constant refinement to determine actual effects on friendly and threat courses of action (COAs). These relationships exist among—

- Urban population groups.
- The technical aspects of the infrastructure.
- The historical, cultural, political, or economic significance of the urban area in relation to surrounding urban and rural areas or the nation as a whole.
- The physical effects of the natural and man-made terrain.

A primary goal of any IPB is to accurately predict the threat's likely COA (step four—which may include political, social, religious, informational, economic, and military actions). Commanders then can develop their own COAs that maximize and apply combat power at decisive points. Understanding the decisive points in the urban operation allows commanders to select objectives that are clearly defined, decisive, and attainable.

Blurred Situational Understanding May Lead to Mission Failure

B-4. Commanders and their staffs may be unfamiliar with the intricacies of the urban environment and more adept at thinking and planning in other environments. Therefore, without detailed situational understanding, commanders may assign missions that their subordinate forces may not be able to achieve. As importantly, commanders and their staffs may miss critical opportunities because they *appear* overwhelming or impossible (and concede the initiative to the threat). They also may fail to anticipate potential threat COAs afforded by the distinctive urban environment. Commanders may fail to recognize that the least likely threat COA may be the one adopted

precisely because it is least likely and, therefore, may be intended to maximize surprise. Misunderstanding the urban environment's effect on potential friendly and threat COAs may rapidly lead to mission failure and the unnecessary loss of soldiers' lives and other resources.

Training, Experience, and Functional Area Expertise

B-5. Not all information about the urban environment is relevant to the situation and mission—hence the difficulty. Although it may appear daunting, institutional education, unit training, and experience at conducting an urban IPB will improve the ability to rapidly sort through all the potential information to separate the relevant from merely informative. (This applies to any new or difficult task.) The involvement and expertise of the entire staff will allow commanders to quickly identify the important elements of the environment affecting their operations. Fortunately, IPB is a methodology comprehensive enough to manage the seemingly overwhelming amounts of information coming from many sources.

B-6. As in any operational environment, tension exists between the desire to be methodical and the need to create the tempo necessary to seize, retain, and exploit the initiative necessary for decisive UO. Quickly defining the significant characteristics of the urban environment requiring in-depth evaluation (not only what we need to know but what is possible to know) allows rapid identification of intelligence gaps (what we know versus what we don't know). Such identification leads to priority information requirements (PIR) and will drive the intelligence, surveillance, and reconnaissance (ISR) plan (how will we get the information we need). FM 3-55 and Chapter 4 discuss ISR. Commanders carefully consider how to develop *focused* PIR to enable collectors to more easily weed relevant information from the plethora of information. Commanders can make better decisions and implement them faster than a threat can react.

AMPLIFIED IMPORTANCE OF CIVIL (SOCIETAL) CONSIDERATIONS

B-7. The Army focuses on warfighting. The experiences in urban operations gained at lower echelons often center on the tactics of urban offensive and defensive operations where the influences of terrain and enemy frequently dominate. At higher echelons, the terrain and enemy are still essential considerations, but the societal component of the urban environment is more closely considered. Moreover, the human or civil considerations gain importance in support operations and stability operations regardless of the echelon or level of command. In addition to the echelon and the type of operation, a similar relationship exists between the key elements of the urban environment and other situational factors. These factors can include where the operation lies within the spectrum of conflict or the level of war and the conventional or unconventional nature of the opposing threat. Figure B-2 on page B-4 graphically represents the varying significance of these elements to urban IPB. Population effects are significant only in how they affect the threat, Army forces, and overall mission accomplishment.

B-8. Describing the battlefield's effects—step two of the IPB—ascribes meaning to the characteristics analyzed. It helps commanders understand how the environment enhances or degrades friendly and threat forces and

capabilities. It also helps commanders understand how the environment supports the population. It also explains how *changes* in the "normal" urban environment (intentional or unintentional and because of threat or friendly activities) may affect the population. Included in this assessment are matters of perception. At each step of the IPB process, commanders try to determine the urban society's perceptions of ongoing activities to ensure Army operations are viewed as intended. Throughout this process, commanders, staffs, and analysts cannot allow their biases—cultural, organizational, personal, or cognitive—to markedly influence or alter their assessment (see FM 34-3). This particularly applies when they analyze the societal aspect of the urban environment. With so many potential groups and varied interests in such a limited area, misperception is always a risk.

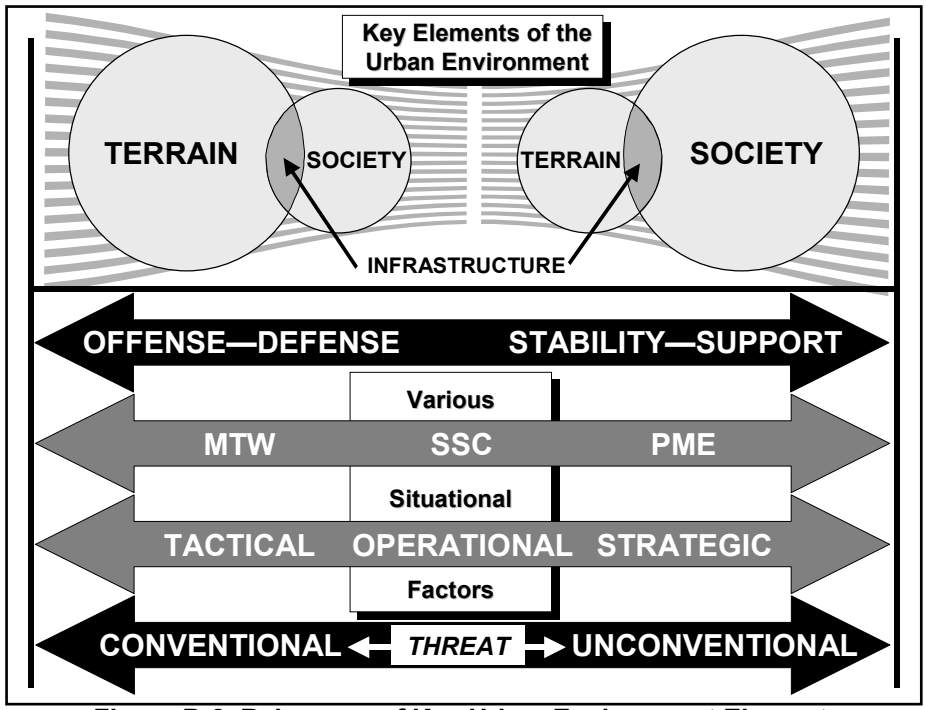


Figure B-2. Relevance of Key Urban Environment Elements

SIGNIFICANT CHARACTERISTICS

B-9. For IPB to remain effective in UO, its analysis must include the urban environment's attributes—man-made terrain, society, and infrastructure—and an evaluation of characteristics traditionally included in IPB: the underlying natural terrain (to include weather) and the threat. Because the urban environment is so complex, it is useful to break it into categories. Then commanders can understand the intricacies of the environment that may affect their operations and assimilate this information into clear mental images. Commanders can then synthesize these images of the environment with the current status of friendly and threat forces and develop a desired end state. Then they can determine the most decisive sequence of activities that will move their forces from the current state to the end state. Identifying and understanding the environment's characteristics (from a friendly, threat, and

noncombatant perspective) allows commanders to establish and maintain situational understanding. Then they can develop appropriate COAs and rules of engagement that will lead to decisive mission accomplishment.

B-10. Figures B-3, B-4, and B-5 are not intended to be all-encompassing lists of urban characteristics. They provide a starting point or outline useful for conducting an urban IPB that can be modified to meet the commander's requirements. Commanders and staffs can compare the categories presented with those in the civil affairs area study and assessment format found in FM 41-10 and the IPB considerations for stability operations and support operations found in FM 34-7.

MULTIPLE OVERLAPS

B-11. Since the urban environment is comprised of a "system of systems," considerations among the key elements of the environment will overlap during urban IPB analysis. For example, boundaries, regions, or areas relate to a physical location on the ground. Hence, they have urban *terrain* implications. These boundaries, regions, or areas often stem from some historical, religious, political, or social aspect that could also be considered a characteristic of the urban *society*. Overlaps can also occur in a specific category, such as *infrastructure*. For instance, dams are a consideration for their potential effects on transportation and distribution (mobility), administration and human services (water supply), and energy (hydroelectric).

B-12. This overlap recognition is a critical concern for commanders and their staffs. In "taking apart" the urban environment and analyzing the pieces, commanders and staffs cannot lose perspective of how each piece interacts with any other and as part of the whole. Otherwise, their vision will be shortsighted, and they will fail to recognize the second- and third-order effects of their proposed COAs; the actual end state differing dramatically from the one envisioned by the commander. The increased density of combatants and noncombatants, infrastructure, and complex terrain means that a given action will likely have unintended consequences. Those consequences will be more widely felt and their impact will spread in less time than in other environments. These unintended results may have important strategic and operational consequences. The multiple ways these dynamic urban elements and characteristics combine make it necessary to approach each urban environment as a unique IPB challenge.

URBAN TERRAIN AND WEATHER

Terrain

B-13. Earlier admonitions that civil considerations are more closely considered in UO do not necessarily mean that consideration for urban terrain is de-emphasized. In every urban operation, terrain and its effects on both threat and friendly forces is assessed and understood. Then commanders can quickly choose and exploit the terrain (and weather conditions) that best supports their missions. Terrain analysis thoroughly assesses urban structures as well as the ground on which they stand (see Figure B-3 and FM 5-33). An analysis of urban terrain first considers broader urban characteristics and effects and progress to a more detailed examination.

Forms and Functions

- Cores
- Industrial areas
  - Toxic industrial material production and storage facilities
  - Standard signs and markings for toxic chemicals
- Outlying high-rise areas
- Residential areas and shantytowns
- Commercial ribbon areas
- Forts and military bases

Broad Urban Patterns

- Types
  - Satellite
  - Network
  - Linear
  - Segment
- Dominant or central hub (if any)
- Area covered (square miles)

Street Patterns

- Basic Types
  - Radial
  - Grid
  - Irregular (planned and unplanned)
- Variations
  - Rayed
  - Radial-Ring
  - Contour-forming
  - Combined
- Widths

Construction and Placement

- Construction
  - Mass or framed
  - Light or heavy clad
  - Material (dirt, wood, stone, brick, cinder block, concrete, steel, and glass)
  - Density and thickness (roofs, floors, and interior and exterior walls)
  - Load bearing walls and columns
  - Height (floors)
  - Doors, windows, fire escapes, and other openings
  - Interior floor plan (including crawl spaces, elevators, and stairs)
- Placement
  - Random
  - Close-orderly block
  - Dispersed
- Ownership

Military Aspects of Terrain: OAKOC

- Observation and fields of fire
  - Smoke (fire), dust (explosions), and flying debris
  - Rubble
  - Engagement ranges (including minimum safe distances and backblast factors) and obliquity/angle (ricochets)
  - Elevation and depression considerations
  - Lasers and reflective concerns
- Avenues of approach (mobility corridors)
  - Airspace
  - Surface
  - Supersurface (intrasurface)
  - Subsurface
- Key terrain
  - Landmarks
  - Buildings of significant cultural, social, political, or economic significance
- Obstacles
  - Rubble and vehicles
  - Masking of fires
  - Burning buildings or other fire hazards
  - Rivers and lakes
- Cover and concealment
  - Building protection
  - Weapon penetration (single shot and multiple rounds) considerations
  - Rubble and vehicles

Figure B-3. Significant Urban Terrain Characteristics

B-14. **Natural Terrain.** The natural terrain features beyond the urban area and beneath urban structures significantly influence unit operations. They dictate where buildings can be constructed, the slope and pattern of streets, and even the broad urban patterns that develop over longer periods of time, thereby influencing a unit's scheme of maneuver. The military aspects of terrain—observation and fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment (OAKOC)—remain critical to the analysis of natural terrain in, under, and around urban areas. Fortunately, commanders and their staffs are accustomed to this type of analysis.

Analysis of an Urban Area's Underlying Terrain Mitrovica, Kosovo

An urban area's underlying terrain provides many clues into its history, economy, society, and current situation. Mitrovica, Kosovo is an illustrative example. The Ibar River creates a natural line of communications through the middle of the city as well as an obstacle that bisects the urban area. This bisection naturally

divides the two resident ethnic groups: Albanians and Serbs. The separation became significant at both the strategic and tactical levels during 1999 deployments to Kosovo. Army forces had to ensure that the Orthodox Church located south of the Ibar was accessible to Serbs residing in the north. North Atlantic Treaty Organization (NATO) peacekeepers built a footbridge across the river that allowed reliable, safe passage. The natural feature separating the two groups assisted NATO troops in maintaining stability in the region.

B-15. **Man-Made Terrain.** Building composition, frontages, placement, forms and functions, size, floor plans, and window and door locations affect maneuver, force positioning, and weapons deployment considerations. Angles, displacement, surface reflection, and antenna locations influence command and control. Structures also influence ISR operations. The increased density and volume created by man-made structures increase how much information commanders and their staffs collect and assess as well as the number of forces required. Building materials and construction will also influence force structures to include weapons and equipment required. The ability to maneuver through the urban dimensions—airspace, supersurface (including intrasurface), surface, and subsurface—and shoot through walls, ceilings, and floors also creates increased psychological stress. The characteristics of man-made terrain can also be analyzed using OAKOC.

Weather

B-16. Weather and its effects are often considered when examining the military aspects of terrain. Military aspects of weather include temperature (heat and cold), light conditions, precipitation (cloud cover, rain, snow, fog, and smog), and wind. Their military effects during UO are similar to any operational environment (see FM 34-81 and FM 34-81-1). Extremes of heat and cold affect weapon systems and the soldiers that operate them. The extra luminescence provided by the ambient light of an urban area, unless controlled, may affect night vision capabilities and the ability of the Army to "own the night." Precipitation affects mobility and visibility. Smog inversion layers are common over cities. An inversion layer may trap smoke and chemicals in the air to the detriment of soldiers' health. (If the conditions are severe enough, it might require the use of protective masks.) Winds, which may increase as they are funneled through urban canyons, may—

- Increase other weather effects (wind chill, for example).
- Decrease visibility (blowing debris, sand, rain, and snow).
- Spread radiation, biological, and chemical hazards.
- Adversely affect low-altitude air mobility.

However, commanders also analyze weather for its potential effect on civilians. Rain might create sewage overflow problems in refugee camps, increasing disease and even creating panic. (Rain and flooding may also make some subsurface areas impassable or extremely hazardous to military forces.) Other weather effects on UO can include—

- Heavy snowfall in an urban area that may paralyze area transportation and distribution infrastructure, hindering the urban administration's ability to provide vital human services (police, fire fighting,

medical, and rescue). Heavy rains may have similar effects on poorly designed and constructed roads.

- Extreme hot and cold weather climates that increase the dependence (and military significance) of many elements of the infrastructure. For example, the energy infrastructure may be critical; without it, civilians may not be adequately cooled or heated.
- In urban areas located in tropical regions, it can rain at the same time each day during the wet season. Threat forces may attack during these periods knowing aircraft will have difficulty responding. Bad weather also reduces the effectiveness of surveillance, direct and indirect fire, and logistic support.
- Inclement weather may preclude demonstrations or rallies by threats. Good weather may mean a maximum turnout of civilians for events such as festivals, sporting events, and other social, cultural, or religious activities.
- Severe weather may affect psychological and civil-military operations. Heavy rains may disrupt leaflet drops, construction projects, and medical and veterinary assistance programs.

URBAN SOCIETY

B-17. This manual shows that societal considerations take on added importance. Critical to operational success is knowing which groups live in an urban area, what relationships exist among them, and how each population group will respond to friendly and threat activities. Often determining any of this is very difficult. Social and cultural understanding is also essential in helping commanders and their staffs to view the urban area as the residents view it. The demographics presented depict *what* conditions exist, while the other categories help to explain the root causes or *why* conditions exist (see Figure B-4). These other categories include health, history, leadership, ethnicity and culture, religion, and government and politics.

Population Demographics

- General population size
  - Village
  - Town
  - City
  - Metropolis
  - Megalopolis
- Group size based on race age, sex, political affiliation, economics, religion, tribe, clan, gang, criminal activities, or other significant grouping
  - Significant US or allied populations
  - Distribution, densities, and physical boundaries and overlaps
  - Majority, minority, and dominant groups
- Increasing or decreasing migration trends
  - Dislocated civilians
- Nongovernmental organizations
  - Local
  - National
  - International
- Languages (distribution, dialects, relationship to social structure)
- Educational levels and literacy rates
- Crime rates
- Birth and death rates
- Labor statistics and considerations
  - Skilled and unskilled
  - Imported and exported
  - Unemployment
  - Standard wages and per capita income
  - Workday and workweek norms

Health

- Diseases
- Nutritional deficiencies
- Local standards of care
- Pollution and environmental hazards (air, water, food, and soil)
- Health workers (types, numbers, and degree of skill)

History

- General and for a specific group
  - Internal or external
  - Recent conflicts

Figure B-4. Significant Urban Societal Characteristics

History (continued)

- Relationship with US, allies, and other participating multinational forces
- Applicable international treaties
- Status-of-forces agreements
- Antagonists/protagonists
- Heroes
- Events, facts, and dates considered important or celebrated
- Urban area's historical importance

Leadership and Prominent Personalities

- Affiliation (ethnic, religion, military, government, industry, criminal, or entertainment)
- Education attained
- Organization and distribution of power
- Associations among different leaders and groups

Ethnicity and Culture

- Values, moral codes, taboos, and insults (verbal and non-verbal)
- Attitudes towards age, sex, and race (including same-sex interaction)
- Role of the clan, tribe, or family
- Biases between ethnic groups
- Privacy and individuality
- Recreation, entertainment, and humor
- Fatalism or self-determination
- Exchanges of gifts
- Displays of emotion
- Lines of authority
- Dating and marriage
- Greetings, leave-takings, and gestures
- Visiting practices
- Alcohol and drug use
- Important holidays, festivals, sporting, or entertainment events
- Eating and dietary practices
- Significance of animals and pets
- Urban-rural similarities and differences
- Driving habits
- Clothing

Religion

- Sects, divisions, and overlaps
- Religious biases and problems
- Relationship and influence on government, politics, economics, and education
- Impact on ethnic and cultural beliefs
- Key events or celebrations (daily, weekly, monthly, or annually)
- Funeral and burial practices

Government and Politics

- Present and past forms
- Organization and powers (executive, legislative, judicial, and administrative divisions)
- Scheduled elections and historical turnouts
- Degree of control over the population
  - Identification required
  - Border-crossing procedures
- Relationship with US or multinational governments, national governments, and criminal elements
- Political factions and boundaries
- Political traditions
- Grievances
- Censorship
- Nepotism and other clan, tribal, or social ties
- Civil defense and disaster preparedness (organization, plans, training, equipment, and resources)
  - Evacuation routes
- Legal system
  - System of laws
  - Applicable treaties
  - Courts and tribunals
  - Procedures
  - Records (birth and deeds)
- Property control
- Monetary system (formal and informal)
- Domestic and foreign trade
  - Taxation and tariffs
  - Customs requirements
  - Rationing and price controls
  - Economic performance and contribution to gross national product
  - Economic aid
  - Perception of relative deprivation
  - Trade unions
  - Competition with the black market and organized crime

Figure B-4. Significant Urban Societal Characteristics (continued)

B-18. Aside from friendly and threat forces, the society is the only thinking component of the urban environment able to rapidly impact the urban operation. (Even people going about their daily routines can unwittingly hamper the mission.) Urban residents create conditions for restrictive rules of engagement, increase stress on soldiers and logistic capabilities, and confuse threat identification (see Threat Considerations in this appendix). Demographic, health, safety, ethnic, and cultural concerns will be essential considerations in most UO. Other situational factors—the mission, enemy, and time available—dictate the balance between the level of detail and analysis to

support the overall urban operation with the level of detail that commanders and their staffs can achieve. However, an IPB that fails to devote enough time and resources to societal analysis can find large elements of the population turned against the Army force. Analyzing the urban society first may help to focus or limit further analysis of the terrain and infrastructure, saving time and ISR resources.

URBAN INFRASTRUCTURE

B-19. Functional and analytical overlap readily appears when examining urban infrastructures (see Figure B-5). They are composed of physical structures or facilities and people. Hence, much of the analysis conducted for terrain and society can apply when assessing the urban infrastructure. For example, commanders, staffs, and analysts could not effectively assess the urban economic and commercial infrastructure without simultaneously considering labor. All aspects of the society relate and can be used to further analyze the urban work force since they are a subelement of the urban society. Similarly, the OAKOC aspects used to evaluate terrain may also apply to the urban infrastructure, especially considerations of key terrain.

Transportation and Distribution

- Water
  - Shipyards and other port and harbor facilities
  - Inland waterways, canals, and locks
  - Offshore pipeline berths
  - Cargo storage and handling
  - Types and number of ships, boats, and ferries
  - Dams
- Streets and roads
  - Bridges and fords
  - Over- and underpasses
  - Raised embankments, tunnels, culverts, and other subterranean features (widths and clearances)
  - Parking areas (surface, subsurface, and supersurface)
  - Weight restrictions
  - Traffic light operations
  - Traffic patterns
  - Widths
  - Surface materials
- Rail
  - Lines
  - Terminals
  - Switchyards and junctions
  - Subways, bridges, elevated rail lines, and underpasses (clearances)
  - Track gauges
  - Types and number of rolling stock
  - Electrification
- Air
  - Airfields and runways (including capabilities)
  - Heliports and helipads (including rooftop)
  - Types and number of aircraft
  - Cargo storage and handling
- Trucking companies and delivery services
- Available material-handling equipment
- Rush hour and market time considerations
- Seasonal (weather) effects
- Rubble effects
- Impact of dislocated civilians and migration patterns
- Likely population congregation points
- Identifiable primary and alternate lines of communications

Economics and Commerce

- Industries
  - Types and Locations
  - Important companies (including US or allied)
  - Military production facilities
- Sources of raw materials
- Use of toxic industrial materials and biological agents
  - Agriculture (insecticides, herbicides, and fertilizers)
  - Manufacturing
  - Cleaning
  - Research
- Food types, quantities, and sources
  - Requirements and availability
  - Storage and processing
  - Cleanliness standards
- Stores, shops, restaurants, hotels, and strip malls
- Recreation facilities
  - Outdoor and amusement parks
  - Stadiums and other sports facilities
- Machine shops
- Brick and lumber yards
- Banking and investment institutions

Figure B-5. Significant Urban Infrastructure Characteristics

Administration and Human Services

- Police and fire protection
  - Headquarters, station, and key facilities locations
  - Organization and strengths
  - Equipment
  - Functions, authority, and jurisdictional boundaries
  - Contract guard services
- Welfare and public assistance
  - Monetary assistance
  - Orphanages
  - Elderly care facilities
- Water supply systems
  - Water sources and storage (lakes, reservoirs, cisterns, pools, and public baths)
  - Water treatment and quality
  - Pumping stations and other distribution methods (trucks, bottles)
  - Hydrant locations
- Snow removal capabilities
- Street light operations
- Health facilities
  - Hospitals
  - Emergency medical services
  - Mental institutions
  - Medical supplies and equipment
  - Research and pharmaceutical buildings
  - Blood banks
- Governmental buildings
  - Embassies
  - Capitol building
  - Legislative, judicial, and ministry buildings
  - Hall of records
- Cultural resources
  - Religious buildings (churches and mosques)
  - Shrines, monuments, and other historical structures
  - Schools, museums, theaters, and libraries
- Waste and sanitation
  - Types (solid, sewage, and toxic)
  - Collection, processing, and disposal
  - Dumps or landfills
  - Drainage systems
- Effects of military control measures on providing vital human services

Energy

- Types
  - Electric
  - Oil
  - Coal
  - Natural gas
  - Nuclear
  - Solar
  - Hydroelectric
  - Geothermal
- Facilities
  - Production and processing
  - Storage
- Distribution
  - Pipelines (above and below ground)
  - Power lines (overhead and underground)
  - Water, rail, and road
- Potential hazards

Communication and Information

- Print media
  - Newspapers, periodicals, and pamphlets
  - Billboards and posters
  - Postal facilities
- Telephone facilities
  - Wire or wireless
  - Facsimile machines
- Telegraph facilities
- Radio facilities
- Police, fire, and rescue systems
- Security systems
- Television facilities
- Computers and the Internet
- Antennas, towers, relay stations, and lines (surface and subsurface)
- Integration of space-based capabilities
- Public forums and speech
- Low-technology media (cars horns, drums, graffiti, and burning tires)
- Key media organizations and reporters
  - Local
  - International
  - US

Figure B-5. Significant Urban Infrastructure Characteristics (continued)

THREAT CONSIDERATIONS

B-20. Chapter 3 outlines the instability and uncertainty of the strategic environment. Commanders and staffs, and analysts identify and analyze the threat in steps three and four of the IPB process. They analyze the threat's composition, strength, disposition, leadership, training, morale, weapons and capabilities, vulnerabilities, internal logistics and external support, doctrine (if any), strategy or modus operandi, and tactics. The threat can take a variety of forms:

- Conventional military forces.
- Paramilitary forces.
- Guerrillas and insurgents.
- Terrorists.
- Militia or special police organizations.

B-21. A general study of guerrilla and insurgent tactics, techniques, and procedures may prove beneficial to many types of operations regardless of the actual composition or type of threat forces. Insurgent strategies and tactics may work especially well in this complex environment and will likely be a part of any threat COA. Particularly, commanders understand how a threat might restrict itself by the laws of land warfare and similar conventions, or exploit the use of these conventions to its own gain. Commanders can refer to FM 31-20-3 for more information. For many of the above threats, no doctrinal templates may exist. Commanders, staffs, and analysts evaluate, update (or create), and manage threat databases early (and continuously) in the IPB process.

> *. . . [T]he adversaries of freedom . . . send arms, agitators, aid, technicians and propaganda to every troubled area. . . . [S]ubversives and saboteurs and insurrectionists . . . [possess] the power to conscript talent and manpower for any purpose, . . . and long experience in the techniques of violence and subversion. . . . It is a contest of will and purpose as well as force and violence—a battle for minds and souls as well as lives and territory.*
>
> John F. Kennedy
> Message to Congress, 27 April 1961

ENVIRONMENTAL THREATS

B-22. While threats vary, they share a common characteristic: the capability and intent to conduct violence against Army forces to negatively influence mission accomplishment. These threats are often the most recognizable for forces trained for warfighting—these are often the enemy. Army units be able to conduct full spectrum operations—offense, defense, stability, and support. Commanders broaden their concept of the threat when analyzing the urban environment's terrain, societal, and infrastructure characteristics. This analysis includes many environmental dangers (potentially affecting both sides of a conflict as well as noncombatants) such as—

- Natural disasters (earthquakes, fires, floods, and heavy snows).
- Hunger, starvation, and malnutrition.
- Water shortages.
- Rampant disease.
- Pollution and toxic industrial materials.

A critical difference between the latter forms of threat and the former is the lack of *intent* to do harm. The latter may stand alone as threats, or these conditions may be created, initiated, or used by the enemy or a hostile as a weapon or tool. Threat analysis includes identifying and describing how each relevant characteristic of the area of operation can hinder mission accomplishment. This analysis, particularly during stability operations and support operations, may require extensive coordination and cooperation with urban civil authorities, law enforcement, and numerous governmental and nongovernmental organizations.

CIVILIANS

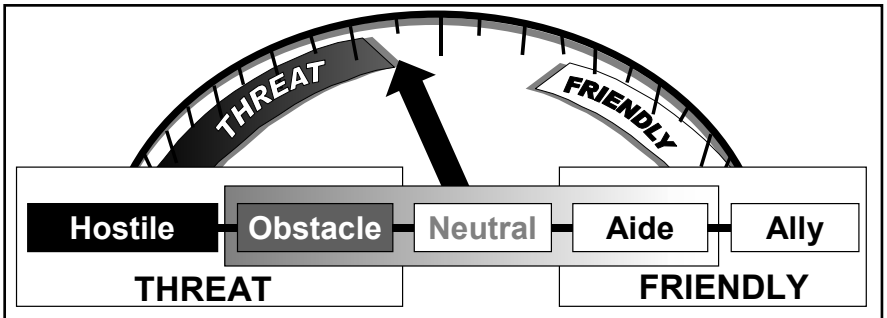
B-23. In a major theater war where offensive and defensive operations are conducted against a clear enemy, the third step of IPB—identify the threat—is readily accomplished. Its well-established procedures include updating or creating threat models and identifying threat capabilities. This same analytic process includes modeling population subgroups. The process applies to smaller-scale contingencies, peacetime military engagement activities where stability operations and support operations dominate, and urban offensive and defensive operations where civilians are in close proximity to Army forces. This adaptation is necessary to further broaden the threat concept to include specific elements of the urban society and, in some instances, non-governmental organizations (NGOs) and other civilian agencies working in the urban area. In many stability operations, this modification can account for opposing armed forces that are not an enemy but are a threat to the mission. As discussed in Chapter 8, Army forces in many stability operations and support operations must avoid classifying or thinking of these threats as *the enemy*.

Need for More Accurate Categories

B-24. Army forces recognized that the threat evaluation was not a straightforward assessment of the capabilities of a known, armed enemy. This resulted in developing categories for assessing the disposition of population subgroups within an AO: enemy, neutral, or friendly. Sectors of the population were labeled based on which side (if any) each group seemed to favor. This early method helped to mitigate Army forces' situational uncertainty. It provides a general idea of the level of support or resistance Army forces might expect by elements of the urban population.

B-25. Aside from the flawed labeling of every threat as an enemy, the initial attempt at categorization was a good first step. However, it required refinement to better indicate the level of threat or utility that civilian groups pose for Army forces conducting UO. It also provides a clearer basis for detecting and monitoring shifts in key or relevant relationships (see Figure B-6). Commanders note that where a group or subgroup falls along this continuum is relative to the perspective from which it is viewed. This is an especially important consideration in multinational and interagency UO. During operations in Somalia, US Army forces may have viewed a particular clan as a hostile element. The United Nations' Italian contingent, with their colonial background in the region, may have considered the same clan as neutral or even an ally.

B-26. Although necessary and greatly improved, commanders recognize that no system of categorization will precisely classify any given group; no system can reflect the overall nature and complexity of the urban society. A single group may fit in a particular category. It may also have components in two or more categories simultaneously. Often, it can shift among categories during an operation. A given group may have individuals in it who have interests identical to or different from that group and these individual interests may change over time.



Hostile: An element (*individual, group, or organization*) that has the intent to negatively influence mission accomplishment by supporting enemy forces (or another hostile element) or exploiting friendly vulnerabilities but is not engaging in protracted combat operations.

Obstacle: An element whose presence or activities serve to unintentionally impede, disrupt, or constrain friendly operations by imposing additional losses in personnel, time, equipment, and resources. Its interests may or may not be compatible with friendly objectives.

Neutral: An element whose presence, activities, and overall interests do not conflict with friendly, enemy, or hostile forces.

Aide: An element whose *present* intentions are—either wittingly or unwittingly—compatible with friendly force objectives.

Ally: An element whose *fundamental* interests and intent align with friendly force objectives.

Figure B-6. Continuum of Relative Interests

B-27. A peace enforcement operation illustrates the varying nature of groups. An identified criminal group might be classified as an *obstacle* to the commander's mission because its illegal activities impede unit progress. Its compelling interest, however, is to make money rather than interfere with friendly forces. In the same operation, one of the armed belligerents may be intent on disrupting the peace process and would be, therefore, classified as a *hostile*. (Again, not as an enemy unless they engaged in prolonged combat operations against the peacekeeping force.) The belligerent force may finance the criminal organization to assist in further obstructing the peace mission. The criminal organization moves from being an obstacle to that of a hostile.

Shifting Civilian Interests and Intent

Among other applicable lessons (see also the vignette in Chapter 8), the Los Angeles riots of 1992 illustrate how urban population groups can shift their relative positions due to changing conditions in an urban AO. Several gangs exist in the Los Angeles area. Usually, these gangs are hostile to one another. During the riots, however, several rival gangs formed a "united front" against what was seen as a larger obstacle to their own interests: law enforcement. As a result, the hostile gangs became one another's aides during that time.

B-28. This classification effort, therefore, is not a one-time undertaking; commanders constantly review and update it (like the entire IPB process itself). Groups or individuals can be influenced into assisting either the friendly or opposing force. People will also act opportunistically, shifting support and alliances as perceived advantages arise. Even seemingly passive and

law-abiding members of the urban society may conduct themselves in unexpected ways given the right conditions (mob violence, for example).

Similarities, Differences, Capabilities, and Vulnerabilities

B-29. **Focal Points for Analysis.** Similarities and differences in interests and interdependencies between groups are often focal points for analysis (and the allocation of ISR assets). They may indicate how commanders may influence, coerce, or align civilian interests and intentions with mission objectives. Simultaneously, commanders consider an analysis of the civilian element's (individual, group, or organization) *capability* to influence the accomplishment of friendly objectives. They also consider civilians' vulnerabilities and dependencies. If a civilian group's fundamental interests align with friendly objectives and this group has the intent to assist friendly forces, it is clearly an ally. However, with limited or no capability, a specific group will not help move the commander any closer to achieving his desired end state and accomplishing the mission. Then the commander would normally limit the resources expended on this group to those necessary for maintaining their commitment to common goals and objectives.

B-30. **Creating Civilian Capability as Aide or Ally.** In contrast, commanders may provide a group with resources to enhance or create the capability to assist in mission accomplishment. They may do this if they felt that the assistance gained (or reduction to threat support) exceeds the potential diminishment of their own force's capabilities from losing those same resources. Commanders would also consider the group's dependencies (such as food, infrastructure, and protection) and overall vulnerability to outside influence. If vulnerable to friendly influence or control (understanding urban societal considerations and matters of perception are critical in this regard), then forces are likely susceptible to enemy or hostile manipulation. Even if commanders can generate extra resources (and not significantly affect their own force's capabilities), they still conduct this same cost-benefit analysis to determine which civilian group (if any) should receive resources.

Greatest Potential Nearer the Center

B-31. The most critical population sectors often are those nearest the middle of the spectrum, particularly if their capabilities (or potential) significantly degrades or enhances mission accomplishment. These are the obstacle, neutral, or aide categories. If their interests can be adequately understood, commanders may have great chance to influence the population segment and significantly contribute to mission accomplishment.

Political and Strategic Concerns

B-32. The aide category may be of significant political or strategic concern. An aide group may be invaluable for accomplishing intermediate objectives but become a vulnerability to accomplishing a larger stability operation. (Even an urban offensive or defensive operation is likely to transition to a stability operation.) Commanders may provide resources to a criminal organization to assist in defeating insurgent forces during urban combat operations. Once these forces have been subdued, the interests (monetary gain and defeat of the threat) linking friendly forces with this criminal element

disappear. What may remain is a criminal organization with more power than a reconstituted or newly established law enforcement agency and a truly destabilizing force. This also illustrates the second- and third-order thinking that will be required of commanders and their staffs during UO.

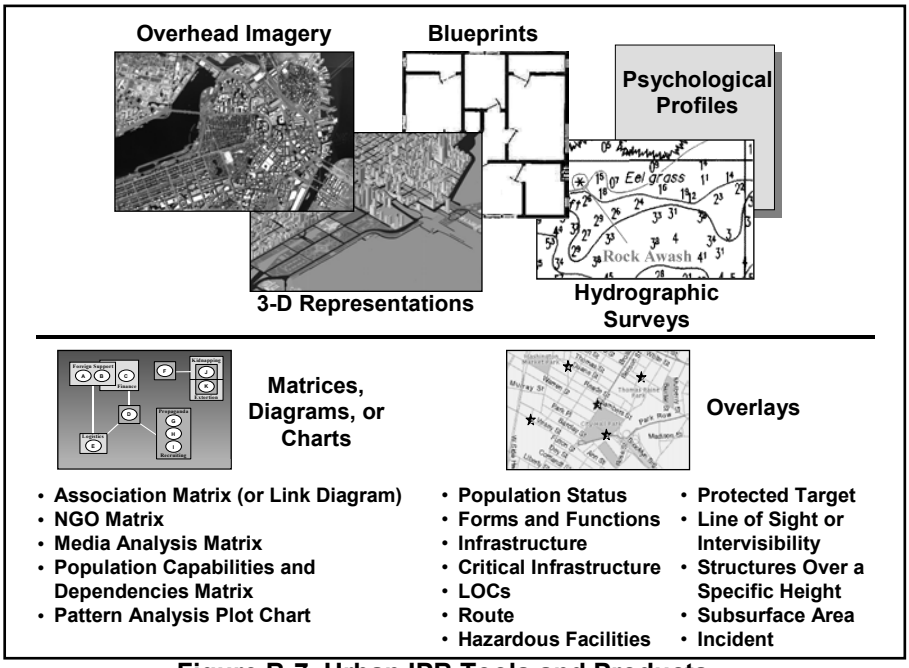


Figure B-7. Urban IPB Tools and Products

URBAN IPB TOOLS AND PRODUCTS

B-33. Adapting IPB to UO involves recognizing the intent of each of the steps of the process and adapting analytic tools and products to help meet those intentions in a complex environment (see Figure B-7 and FM 3-34.230). Standard tools and products include: modified combined obstacle overlays and doctrinal, situation, event, and decision support templates or matrices. In addition to these standards aids, staffs and analysts may develop or produce other innovative tools to assist commanders in their situational understanding of the complex urban environment. Staffs and analysts may also initiate requests for products (or information) from their higher headquarters or other agencies with the technical means or control over assets when the capability lies outside the Army force's means. The tools that developed or requested may include—

- Overhead imagery.
- Three-dimensional representations.
- Infrastructure blueprints.
- Hydrographic surveys.
- Psychological profiles.
- Matrices, diagrams, or charts.
- Various urban overlays.

OVERHEAD IMAGERY

B-34. Recent satellite imagery or aerial photography will be required for most types of UO. Such images clarify vague and inaccurate maps and other graphic representations. Satellite assets provide responsive data input into the geographic information systems (GIS). (The National Imagery and Mapping Agency [NIMA] and other intelligence sources prepare data sets.) GIS will often form the basis for creating the three-dimensional representations and the various overlays described below. Frequently updated (or continuous real-time) satellite or aerial imagery may be required for detailed pattern analysis and maintaining accurate situational understanding. For example, imagery taken during an area's rainy season may appear significantly altered during the summer months.

THREE-DIMENSIONAL REPRESENTATIONS

B-35. Often, physical or computer-generated (virtual) three-dimensional representations may be required to achieve situational understanding. These representations include specific sections of the urban area or specific buildings or structures. Such detail is particularly important for special operating forces and tactical-level units. These units require detail to achieve precision, increase the speed of the operation, and lessen friendly casualties and collateral damage.

INFRASTRUCTURE BLUEPRINTS

B-36. Urban police, fire, health, public utilities, city engineers, realtors, and tourist agencies often maintain current blueprints and detailed maps. Such documents may prove useful to update or supplement military maps or to clarify the intricacies of a specific infrastructure. They may prove critical in operations that require detailed information to achieve the speed and precision required for success. Without such detail, analysts determine interior configurations based on a building's outward appearance. That task becomes more difficult as the building size increases.

HYDROGRAPHIC SURVEYS

B-37. Many urban areas are located along the world's littorals regions and major rivers. Therefore, commanders may need hydrographic surveys to support amphibious, river crossing, and logistic operations.

PSYCHOLOGICAL PROFILES

B-38. Psychological profiles analyze how key groups, leaders, or decision-makers think or act—their attitudes, opinions, and views. They include an analysis of doctrine and strategy, culture, and historical patterns of behavior. The degree to which the attitudes, beliefs, and backgrounds of the military either reflect or conflict with the urban populace's (or civilian leadership's) core values is extremely important in this analysis. Psychological profiles help to assess the relative probability of a threat (or noncombatant group) adopting various COAs as well as evaluating a threat's vulnerability to deception. These profiles are derived from open-source intelligence as well as signals and human intelligence.

MATRICES, DIAGRAMS, OR CHARTS

B-39. Matrices, diagrams, and charts help to identify key relationships among friendly and threat forces and other significant elements of the urban environment. These tools and products include—

- **Association Matrix (or Link Diagram).** The association matrix helps identify the nature and relationship between individuals and groups. Similarly, the link diagram graphically represents key relationships between population elements. These tools are critical for identifying common interests. A significant matrix may be a comparison of cultural perspectives—ideology, politics, religion, acceptable standards of living, and mores—between urban population groups and Army (and multinational) forces to help understand and accurately predict a civilian element's actions.
- **NGO Matrix.** Potentially a form of the association matrix, this matrix contains each NGO's location, capabilities, and relationships (with specific elements of the civilian population, threat and friendly forces, and other NGOs). (See the discussion of Participating Organizations and Agencies in Chapter 8.)
- **Media Analysis Matrix.** This conceptual tool can be used to evaluate each information medium (and the multiple elements within each). Such mediums can include radio, television, print, word of mouth, Internet, and graffiti with its effect on specific sectors of urban population (or larger audiences). This can assist in the perception analysis.
- **Population Capabilities and Dependencies Matrix.** This matrix is similar to the NGO matrix. It describes the capabilities and dependencies of the urban population elements. It is essential in identifying each element's role (threat or friendly) and influence. Depending on their location along the threat-friendly continuum, dependencies may be vulnerabilities that must be attacked or sustained and protected.
- **Pattern Analysis Plot Chart.** This chart depicts the times and dates of a selected activity (such as ambushes, bombings, and demonstrations) to search for patterns of activity for predictive purposes as well as to discern intent.

VARIOUS URBAN OVERLAYS

B-40. Staffs can produce various map overlays. These overlays depict physical locations of some aspect critical to the planning and conduct of the urban operation. NIMA can produce many overlays as an integrated map product (including satellite imagery). These overlays can include the—

- **Population Status Overlay.** This tool depicts the physical location of various groups identified by any significant social category such as religion or language. During offensive and defensive operations, it may simply be where significant numbers of people are "huddled" or located throughout the battlefield. Population dispersal can vary significantly through the day, particularly at night, and must be considered as part of the overall analysis leading to the development of this tool.
- **Forms and Functions Overlay.** Based on the urban model, this overlay depicts the urban core or central business district, industrial areas,

outlying high-rise areas, commercial ribbon areas, and residential areas, to include shantytowns.

- **Infrastructure Overlay.** This overlay is actually a series of overlays. It depicts identifiable subsystems in each form of urban infrastructure: communications and information, transportation and distribution, energy, economics and commerce, and administration and human services. Each subsystem can be broken down into more detail. Infrastructure data may be used to develop three other overlays—
  - **Critical Infrastructure Overlay.** This tool displays specific elements of the urban infrastructure that, if harmed, will adversely affect the living conditions of the urban society to the detriment of the mission. These elements may include power generation plants, water purification plants and pumping stations, and sewage treatment plants. This information could be coded as part of the overall infrastructure overlay.
  - **Lines of Communications (LOCs) Overlay.** The LOCs overlay highlights transportation systems and nodes, such as railways, road, trails, navigable waterways, airfields, and open areas for drop zones and landing zones. It also includes subsurface areas and routes such as sewage, drainage, and tunnels and considers movement between supersurface areas. The LOCs overlay and the route overlay (below) consider traffic conditions, times, and locations, to include potential points where significant portions of the urban population may congregate.
  - **Route Overlay.** This overlay emphasizes mobility information to assist commanders and planners in determining what forces and equipment can move along the urban area's mobility corridors. Pertinent data includes street names, patterns, and widths; bridge, underpass, and overpass locations; load capacities; potential sniper and ambush locations (which may be its own overlay); and key navigational landmarks. The structures over a specific height overlay and subsurface overlay may assist in its development. As with the LOCs overlay, commanders, planners, and analysts think in all dimensions.
- **Line of Sight or Intervisibility Overlay.** This product creates a profile view (optical or electronic) of the terrain from the observer's location to other locations or targets. It can show trajectory or flight-line masking as well as obstructed or unobstructed signal pathways.
- **Structures Over a Specific Height Overlay.** This level of detail may also be critical to communications, fires, and Army airspace command and control (air mobility corridors especially low-level flight profiles). Incorporated as part of this overlay, it may include floors or elevations above limitations for particular weapon systems at various distances from the structure.
- **Subsurface Area Overlay.** As an alternate to the building or structure height overlay, this product provides the locations of basements, underground parking garages, sewers, tunnels, subways, naturally occurring subterranean formations, and other subsurface areas. Similar to elevation "dead spaces," this overlay may show areas that exceed

depression capabilities of weapon systems and potential threat ambush locations—again, affecting maneuver options.

- **Urban Logistic Resources Overlay.** This product identifies the locations of urban logistic resources that may contribute to mission accomplishment. It may contain specific warehouse sites, hospitals and medical supply locations, viable food stores, building material locations, fuel storage areas, car or truck lots, maintenance garages, and appliance warehouses. (NGO locations, taken from the NGO matrix, may be an essential, overlapping element of this overlay.)
- **Hazardous Facilities Overlay.** This overlay identifies urban structures with known or suspected chemical, biological, or radiological features, such as nuclear power plants, fertilizer plants, oil refineries, pharmaceutical plants, and covert locations for producing weapons of mass destruction. These locations are critical to maneuver and fire planning.
- **Protected Target Overlay.** This overlay depicts terrain that should not be destroyed or attacked based on restrictions due to international, host-nation, or US law and subsequent rules of engagement. These may include schools, hospitals, historical or other culturally significant monuments, and religious sites. This overlay may incorporate no-fire areas, such as special operations forces locations, critical infrastructure, logistic sources, and hazardous sites that must be protected as part of the commander's concept of the operation.
- **Incident Overlay.** Similar to the pattern analysis plot chart, this product depicts the location of different threat actions and types of tactics employed to uncover recurring routines, schemes, methods, tactics, or techniques and overall threat interests, objectives, or the desired end state.

B-41. The above IPB tools and products constitute a small sampling of what staffs and analysts can produce. They are limited only by their imaginations and mission needs (not all tools presented above may be relevant or necessary to every operation). Many products can be combined into a single product or each can generate further products of increasing level of detail. This is similar to transparent overlays positioned one atop another on a map. Technology may allow for more urban data to be combined, compared, analyzed, displayed, and shared. The challenge remains to provide timely, accurate, complete, and relevant information in an understandable and usable form *without overloading the commander*.